

# Access and Manage Your Lab Anywhere, Any Time, from any Web Browser

## Reaping the Benefits of a Cost-Effective Lab Management System Delivered Over the Internet

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### The Challenge – Affordable Laboratory Management Software for Labs of Any Size

While laboratory data management technology has evolved over the past 25 years from simple data collection methods to the current enterprise-level data management and integrated LIMS solutions, too many of the thousands of laboratories around the world are still using manual processes or simple tools like spreadsheets to manage the complexities of laboratory workflow, sample management and data collection. The LIMS industry has grown to meet the changing needs of the largest global users in industries that have required a high degree of regulation or standardisation, but it has not up to now been able to deliver a solution for smaller laboratories involved in more routine testing or those labs that are not constrained by strict regulatory policy or the need for continuous validation of their processes. The solutions created for the largest users in the lab community have not been a cost effective choice for smaller laboratories, which often do not have the personnel, IT resources or capital budgets to fund a large scale installed LIMS. Thus the industry has in a way passed these smaller labs by, leaving an entire segment of the marketplace to fend for themselves to create their own workflow and data management systems using paper based methods or spreadsheets.

### Automating Workflows to Gain Laboratory Efficiencies and Reduce Errors with a LIMS

A LIMS is a valuable and necessary tool in large organisations that require complete automation of instruments and systems from within the lab, as well as connectivity with other enterprise systems so that critical business information is distributed throughout the organisation as it is needed. With a LIMS managing the flow of data from instruments across the laboratory to a central data-base, scientists can be assured that their data are error-free and available for analysis when they need it and in the right format. A LIMS will also help the laboratory provide quality assurance and an audit trail for instances where traceability of data is important. In large organisations, an enterprise-level LIMS is typically managed by a dedicated team of IT and LIMS professionals, who install, maintain and validate the software and keep up to date with any system upgrades or hardware requirements. Furthermore, scientists and laboratory staff ensure that processes, workflows, SOPs and methods are kept up to date in the LIMS.

For smaller laboratories or organisations with limited IT infrastructure, this workload and investment is impossible to manage. Small to mid-sized companies with 3-5 scientists often have the same data management needs as larger organisations, but have accommodated for their lack of resources by either building their own database systems or relying on paper based methods. While this approach meets the needs of the lab to analyse, document and store their data for the short term, paper based methods requiring manual data handling can become a barrier to the lab's efficiencies, productivity and even quality. For smaller laboratories, data is still generated by multiple sources of instruments and systems, and most often in formats that are not compatible with each other. Without the support of an installed and integrated LIMS which has automated processes and data collection across the lab, collecting and analysing this data becomes a time-intensive process because scientists are using paper-based methods, creating spreadsheets or other home-grown systems simply to capture and analyse the data and keep track of their multiple workflows. In small to mid-sized laboratories, where there may not be a dedicated IT function or a budget for investment in database hardware and software, scientists and laboratory managers often perform the dual roles of scientist and IT/systems manager. The result is that data quality and analysis can be prone to error from manual handling and the scientist ultimately spends time away from more productive scientific discovery.



### Meeting the Needs of an Unserved Market Segment

LIMS vendors, such as Thermo Fisher Scientific, are recognising the increasing needs of smaller laboratories and organisations that could benefit from the workflow automation, instrument integration and database functionality provided by a LIMS, but do not have the IT infrastructure or resources to implement such a system. By automating the lab's workflow with an on-demand LIMS solution, these smaller labs can realise important time and cost savings in the reduction of personnel time spent on manual processes – allowing the scientists to focus on science and not data management.

The time is right for an on-demand LIMS solution to meet the needs of this significant portion of the laboratory community, enabling labs with fewer personnel to compete effectively and meet their strategic goals by utilising the market leading informatics solutions in a way that is most appropriate for their needs and most aligned with the resources at hand.

While there have been attempts over the past several years to address this gap in serving the needs of smaller laboratories, these solutions have not entirely met the needs of the market and have proven less than optimal for fully automated lab operations. Earlier solutions have offered internet availability and a low price, but the trade offs have been in the functionality provided, which gives the laboratory either a single function automated solution, an automated solution that does not fully integrate with its instrumentation or ERP systems, or a solution that does not have full database functionality. Until now, the solutions available to smaller laboratories have demanded a compromise in function for the lower price offered.

### Full Featured LIMS-on-Demand Now Available

At Thermo Fisher Scientific, we're focused on delivering the most appropriate tools to our customers as their needs change, as their businesses grow and as the market requires. Now, for the first time, Thermo Fisher Scientific has developed an affordable laboratory management solution so that small to mid-sized labs have the benefits of a full-featured LIMS without the expense of an installed system, which can take weeks to install and months to become operational, and without having to sacrifice functionality for a low price. Thermo Scientific LIMS-on-Demand™ enables laboratories to have access to their data anywhere, at any time, from any web browser. With full featured LIMS functionality available over the internet, laboratories with limited IT or financial resources can have all the data reliability and security benefits that come from an installed LIMS but without the time or cost involved in implementing a large scale client-server application. Thermo Scientific LIMS-on-Demand makes it possible for labs of any size to control their data, time and budget for a low monthly fee, which can be allocated to the much more manageable category of operating expense rather than capital expense.

LIMS-on-Demand provides all the benefits of a fully installed LIMS, such as built in workflows, a powerful database, the ability to capture, store and analyse lab data, monitor resources and integrate with instrumentation, and reporting templates, while minimising the need for IT resources and eliminating expensive hardware and software. LIMS-on-Demand provides scientists with automated data reporting, eliminating the time-consuming tasks associated with manual or paper-based processes and enabling laboratory workers to make faster, more informed decisions. Scientists using LIMS-on-Demand simply connect to their system over the internet — from anywhere and from any web browser - when they want and for as long as they want. Since the LIMS is accessed via the internet, there is no extended deployment or installation time. And optimised workflow templates, rapid roll-out, and self-service eLearning allow laboratory personnel to become proficient with the system as quickly as possible. The result is that scientists are able to instantly log onto their system and realise its value much faster than would be possible with an installed system. Managing a laboratory efficiently and effectively requires that scientists can access data as quickly as possible and turn that data into real information that can be used for decision making. When laboratories automate their workflow and data management with a LIMS, they gain laboratory efficiencies, reduce errors, and enable scientists to spend more time in the productive pursuit of science. On-demand solutions like Thermo Scientific LIMS-on-Demand allow laboratories of any size to realise the benefits of automated workflows and data management, enabling scientists everywhere to spend more time in scientific pursuit and less time building systems for managing data.

### Market Leading Solutions Provider – Recognised by the Market

Paula Hollywood of ARC writes about the changes occurring in the LIMS business, "The cost of acquiring a LIMS in the traditional license delivery model can run between \$100,000 for an entry level solution to upwards of \$750,000 for a sophisticated enterprise package. These prices can put a commercial LIMS out of reach for small and medium sized laboratories, in effect compelling these organisations to develop home-grown systems. Approximately 75% of home-grown system costs can be directly attributed to human resources and capital equipment expenditures that may in fact cause such systems to be more expensive to develop, maintain, and validate. A new alternative for small to medium labs is LIMS-on-Demand. Hosted by an application service provider, users can access a fully functional, validated solution via a web browser for a monthly subscription fee. The primary benefits of the on-demand model are low total cost of ownership and ease of use."

A recognised leader in the LIMS Market, Thermo Fisher Scientific has equipped laboratories around the world and across a range of industries with innovative and purpose-built LIMS solutions. Thermo Fisher's dedication to increasing laboratory efficiency while lowering the total cost of LIMS ownership has earned the company a dominant leadership position in the LIMS Market. Thermo Fisher Scientific was twice awarded Best Practices awards in 2008 by Frost & Sullivan for North American LIMS Market Leadership and for Competitive Strategy Leadership for its commitment to innovation and growth in the U.S. Laboratory LIMS Market. Thermo Fisher's leadership position in the LIMS market extends beyond its top market share and extensive customer-base. According to Frost & Sullivan Thermo Fisher's broad portfolio of laboratory informatics products, which are the foundation for the company's success in the LIMS market, have allowed for continued market leadership. Thermo Scientific LIMS-on-Demand is the latest example of the company's attention to changing market needs and its response to providing solutions to the challenges imposed on its global customer base.